

# Winter 2007-2008 Forecast

## For Southwest Michigan

By William Marino

### Forecast Overview

*The National Weather Service 2007-2008 winter forecast for Southwest Lower Michigan has an enhanced probability for above normal temperatures and precipitation. Snowfall has an enhanced probability for being above normal inland of Route 31, while lake shore areas show an enhanced probability for below normal snowfall.*

*Please see the “**Climate Prediction Center Seasonal Forecasts**” internet link at the end of this forecast for more detailed information.*

### Normals

The Table below shows December through February normals for the 1971 to 2000 period for various winter parameters at several locations in Southwest Michigan.

	Grand Rapids	Muskegon	Lansing
<b>Average Temperature:</b>			
<b>High:</b>	32F	32F	32F
<b>Low:</b>	18F	19F	16F
<b>Mean:</b>	25F	26F	24F
<b># Of Days with the high below 32F:</b>	57	56	57
<b>Precipitation:</b>			
<b>Total Precipitation (rain and snow)</b>	6.26"	6.44"	5.23"

## Seasonal Snowfall Normals

	Grand Rapids	Muskegon	Lansing
<b>Total (July 1<sup>st</sup> to June 30<sup>th</sup>):</b>	72"	106"	55"
<b>Mean Date of First 1"</b>	11/17	11/17	11/20
<b>Mean Date of First 3"</b>	12/02	11/29	12/10

### **Number of Days w/at least:**

<b>1":</b>	17	29	20
<b>3":</b>	6	13	4
<b>6":</b>	1	3	1

### **Forecast Reasoning:**

*The 2007-2008 winter forecast was mostly based on the long term trend for warming winters and expected interplay of moderate La Niña. Typically a weak to moderate La Niña winter in southwest Lower Michigan would feature near to below normal temperatures with above normal precipitation. However, since the winter of 1985/1986 (our last of the period of cold winters) over half of the winters have been warmer than normal, while only 20 percent have been colder than normal. In fact, the 30-year running average winter temperature has increased nearly 2 degrees since the winter of 1985/1986. This increase overwhelms the La Niña signature, so there is little question this winter will more than likely be warmer than normal.*

*For precipitation, this same period was evenly separated among wetter than normal winters, near normal winters, and drier than normal winters. Thus, there is no obvious trend. However, while the trend does not help our forecast here, the La Niña correlation of wetter than normal winters does help. Thus we expect this winter to be wetter than normal, even through this past summer and fall have been drier than normal. Please see the "**Climate Prediction Center Probability La Niña Composite Maps**" internet link at the end of this forecast for more details.*

*During the past 12 years, there has been a strong trend toward greater snowfall amounts in Grand Rapids. Nine of those winters were in the top third snowiest winters on record. For Lansing in the past 22 years more than half of the snowfall seasons have been above normal. For both Grand Rapids and Lansing, the La Niña tends shows above normal snowfall is the most frequent outcome.*

*Unlike Grand Rapids and Lansing, Muskegon's La Niña correlation suggests below normal snowfall. Muskegon has not experienced an above normal snowfall season since 1994.*

*Since precipitation is expected to be above normal, and temperature is expected to be above normal, it would be expected that lake shore areas would receive below normal snowfall. This suggests synoptic storm systems will be the primary producer of our winter precipitation and winter snowfall, not lake effect.*

**Conclusion:**

*Based on both La Niña and trend considerations, the winter of 2007-2008 should be remembered as a warm and wet across the region. Snowfall likely will be above normal inland and below normal near the lake shore.*

## Useful Web Links:

*Climate Prediction Center Seasonal Forecasts*

<http://www.cpc.ncep.noaa.gov/products/predictions/90day/>

*Climate Prediction Center Seasonal Forecasts discussion*

<http://www.cpc.ncep.noaa.gov/products/predictions/90day/fxus05.html>

*Climate Prediction Center Probability of Exceedance Map for the winter*

[http://www.cpc.ncep.noaa.gov/products/predictions/long\\_range/lead02/poe\\_index.html](http://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead02/poe_index.html)

*Climate Prediction Center Probability La Niña Composite Maps (Item #32 on left side)*

<http://www.cpc.ncep.noaa.gov/products/predictions/90day/tools/briefing/index.pri.html>

*Climate Prediction Center monitoring page*

[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_update/sstanim.shtml](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_update/sstanim.shtml)

*Climate Prediction Center ENSO monitoring page*

<http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/enso.shtml>

*Climate Prediction Center Drought Monitor*

<http://www.drought.unl.edu/dm/monitor.html>

*Rutgers University Climate Lab, Global Snow Lab*

[http://climate.rutgers.edu/snowcover/table\\_area.php?ui\\_set=1](http://climate.rutgers.edu/snowcover/table_area.php?ui_set=1)

*National Snow and Ice Data Center*

<http://nsidc.org/index.html>